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~~23~~. (New) The connector for a cartridge of electronic parts according to claim ²¹~~22~~, wherein the cover housing includes a protruding section configured to attach to the cartridge of electronic parts.

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~~24~~. (New) A connector for a side plate of a cartridge which removably attaches to an apparatus and contains electronic parts, comprising:

BS a plug housing including a back face opposing to the side plate of the cartridge of the electronic parts and holding at least one contact;

a cover housing combined with the plug housing; and

a circuit board held by the plug housing, the cover housing and the at least one contact, the circuit board electrically connected to the apparatus via the at least one contact;

wherein an exposed end of a lead section of the at least one contact penetrating through insertion holes in the circuit board and exposed ends of leads of an IC chip mounted on the circuit board are substantially flush with each other.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-2 and 4-24 are pending in the application. Claims 1, 6 and 15 have been amended, Claim 3 has been canceled and Claims 21-24 have been added by the present amendment.

In the outstanding Office Action, Claims 6, 7 and 15-20 were rejected under 35 U.S.C. § 112, second paragraph as indefinite; Claims 1, 4, 5 and 8-14 were rejected under 35 U.S.C. § 102(b) as anticipated by Bethurum; Claims 2 and 3 were indicated as allowable if rewritten in independent form; Claims 6 and 7 were indicated as allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph; and Claims 15-20 were allowed.

Applicants thank the Examiner for the indication of allowable subject matter and for the courtesy of an interview extended to Applicants' representative on June 25, 2002. During the interview, the objection/rejections noted in the outstanding Office Action were discussed. No agreement was reached pending the Examiner's further review when a response is filed. Arguments presented during the interview are reiterated below.

Regarding the rejection of Claims 6, 7 and 15-20 under 35 U.S.C. § 112, second paragraph, the pending claims have been amended in light of the comments noted in the outstanding Office Action and as shown in the marked-up copy. Accordingly, it is respectfully requested this rejection be withdrawn.

Claims 1, 4, 5 and 8-14 stand rejected under 35 U.S.C. § 102(b) as anticipated by Bethurum. This rejection is respectfully traversed.

Claim 1 has been amended to include the subject matter recited in Claim 3, which was indicated as allowable if rewritten to be in independent form including all the limitations of any intervening claims. Applicant notes Claim 3 depends on Claim 2, but that the subject matter recited in Claim 2 has not been included in Claim 1. It is respectfully submitted amended Claim 1 which now includes only the subject matter recited in Claim 3 also patentably defines over the applied art.

In particular, amended Claim 1 is directed to a connector including a plug housing, a cover housing and a circuit board. Further, the cover housing includes guide grooves configured to guide the plug housing in a sliding motion, and edge sections of the circuit board and edge sections of the plug housing both which are slidable in the guide grooves, which is subject matter similar to that recited in allowed Claim 3.

For example, as shown in Figures 2 and 3, a plug housing 6, a cover housing 7 and a circuit board 8 are combined. The cover housing 7 includes guide grooves 36 configured to

guide the plug housing in a sliding motion and edge sections of the circuit board 8 and edge sections 18 of the plug housing both of which are slidable in the guide grooves 36.

Bethurum discloses an IC card 10 which has connectors 12, 14 at its opposite ends and a cover 60 which is designed to surround the circuit board assembly. The cover includes upper and lower cover parts 66, 68 that have sheet-like portions 62, 64 that lie respectively *above and below* a majority of the surface area of the circuit board. (column 2, line 66 to column 3, line 3.) Thus, the cover 60 of Bethurum lying above and below the surface area of the circuit board does not make contact with the circuit board, and therefore cannot guide the edge sections of the circuit board, as recited in Claim 1.

Therefore, it is respectfully submitted independent Claim 1 and each of the claims depending therefrom are allowable.

Regarding independent Claim 10, the outstanding Office Action states Bethurum discloses a connector comprising a plug housing 12, 14 including a back face, a cover housing combined with the plug housing, and a circuit board held by the plug housing, and the cover housing includes a protruding section (at 62) configured to attach the cartridge of electronic parts (using an adhesive, for example). However, Applicant notes Bethurum discloses a cover housing 62 which is a sheet-like portion (column 3, line 1). The card is designed to be inserted in a forward direction F into an electronic device 16, until contacts 20 on the front connector engage corresponding contacts 22 of the electronic device, as shown in Fig. 1 (column 2, lines 39-41). Thus, Bethurum does not disclose a cover housing including a protruding section configured to attach to the cartridge of electronic parts, as recited in Claim 10.

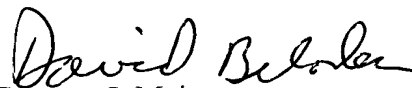
Therefore, it is respectfully submitted independent Claim 10 and each of the claims depending therefrom are also allowable.

In addition, new Claims 21-24 have been added to set forth the invention in a varying scope. In particular, new Claim 21 corresponds to the indicated allowable Claim 2 rewritten in independent form, new Claim 22 corresponds to the indicated allowable Claim 6 rewritten in independent form, and new Claim 23 depends on Claim 22 and corresponds to original Claim 7. Further, new Claim 24 corresponds to the subject matter recited in Claim 1 and also recites that an exposed end of a lead section of the at least one contact penetrating through insertion holes in a circuit board and exposed ends of leads of an IC chip mounted on a circuit board is substantially flush with each other as shown in Figure 6, for example. As discussed during the interview, Bethurum does not teach or suggest these features. Accordingly, it is respectfully submitted Claim 24 is also allowable.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

Page 13, please replace the paragraph beginning at line 4, with the following text:

--In the unit U in which the circuit board 8 is attached to the back face 3 of the plug housing 6, as shown in Fig. 5, an opening portion, the cross-section of which is a C-shape, which is formed by the pair of side plates [9, 10] 10, 11 of the plug housing 6 and the contact holding wall 13, is covered with the circuit board 8. As a result, the pair of side plates 9, 10 of the plug housing 6, the contact holding wall 13 and the circuit board 8 form a closed cross-section and exhibit a block structure. Therefore, it is possible to ensure a high mechanical strength. On the other hand, the front plate 12, both side plates 10, 11 and contact holding wall 13 also exhibit a block structure. Therefore, the structural strength can be enhanced.--

IN THE CLAIMS

Please amend the claims as follows:

--1. (Twice Amended) A connector for a side plate of a cartridge which removably attaches to an apparatus and contains electronic parts, comprising:

a plug housing including a back face opposing to the side plate of the cartridge of the electronic parts and holding at least one contact;

a cover housing combined with the plug housing; and

a circuit board held by the plug housing, the cover housing and the at least one contact, the circuit board electrically connected to the apparatus via the at least one contact;

wherein the cover housing includes guide grooves configured to guide the plug housing in a sliding motion, and edge sections of the circuit board and edge sections of the plug housing both which are slideable in the guide grooves.

3. (Cancelled).

6. (Twice Amended) The connector for a cartridge of electronic parts according to claim 5, wherein a forward end of a holding member which holds the circuit board and an exposed end portion of the at least one contact [a lead] penetrating the circuit board are located on the back face of the plug housing.

15. (Amended) A connector system for an image, comprising:
a cartridge of electronic parts configured to removably attach to the image apparatus;
a plug housing including a back face opposing to the side plate of the cartridge of electronic parts and holding at least one contact;
a cover housing combined with the plug housing; and
a circuit board held by the plug housing, the cover housing and the contact, the circuit board electrically connected to the apparatus via the at least one contact.

Claims 21-24 (New)--